

CLAIMS:

1 *Sub A1* 1. An apparatus for managing call billing records of communications
 2 network users, comprising:
 3 a communications network operative to carry user calls;
 4 a gateway communicating with the network and operative to collect
 5 call billing data from the network in a first data structure format;
 6 a communication link coupled to the gateway; and
 7 a network processor communicating with the gateway via the
 8 communication link and operative to receive the collected call billing data in the
 9 first data structure format and convert the collected call billing data from the first
 10 data structure format to a second data structure format.

1 2. The apparatus of claim 1 wherein the gateway comprises a signaling
 2 gateway.

1 3. The apparatus of claim 1 wherein the network processor comprises
 2 an interface that mates with the communication link.

1 4. The apparatus of claim 1 wherein the network processor polls the
 2 gateway to collect the collected call billing data in the first data structure
 3 format.

1 5. The apparatus of claim 1 wherein the first data structure format
2 comprises raw ASG call event records (CERs).

1 6. The apparatus of claim 1 wherein the second data structure format
2 comprises data in a Bellcore automatic message accounting (AMA) format
3 (BAF).

1 7. The apparatus of claim 1 further comprising a data network
2 communicating with the network processor, and configured to receive the call
3 billing data in the second data structure format for billing processing.

1 8. The apparatus of claim 7 wherein the data network comprises a local
2 traffic system (LTS), and wherein the second data structure format comprises an
3 industry standard automatic message accounting (AMA) format.

1 9. The apparatus of claim 1 wherein the network processor comprises
2 a network platform.

1 10. An apparatus for managing call billing records for users of a
2 communications network, comprising:

3 a network having communications capabilities to carry user calls;

4 a signaling gateway communicating with the network and operative
 5 to collect call billing data resulting from the calls in a first data structure format;
 6 a communication link coupled to the signaling gateway; and
 7 a network processor communicating with the signaling gateway via
 8 the communication link and operative to convert the collected call billing data
 9 from the first data structure format to a second data structure format conducive to
 10 conducting billing processing.

1 11. The apparatus of claim 10 further comprising a data network
 2 communicating with the network processor and operative to periodically receive
 3 the collected call billing data in the second data structure format.

1 12. The apparatus of claim 10 wherein the network processor polls the
 2 gateway to collect the collected call billing data in the first data structure
 3 format.

1 13. The apparatus of claim 12 wherein the network processor polls the
 2 gateway at preset intervals.

1 14. The apparatus of claim 10 further comprising a data network
 2 communicating with the network processor, and configured to receive the call
 3 billing data in the second data structure format.

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15. The apparatus of claim 14 wherein the data network comprises a local traffic system (LTS), and wherein the received call billing data in the second data structure format comprises an industry standard automatic message accounting (AMA) structure code 625 format that is used to implement billing processing.

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16. The apparatus of claim 10 wherein the network processor includes an interface coupled with the communication link operative to mate the network processor with the signaling gateway.

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17. A method of managing call billing records of users of a communications network, comprising:

providing a first computer device, a second computer device, and a communication link, the first computer device communicating with the network and the second computer device communicating with the first computer device via the communication link;

collecting call billing data with the first computer device in a first data structure format;

transferring the call billing data using a data communications protocol from the first computer device to the second computer device; and

11 converting the call billing data with the second computer device from
 12 the first data structure format to a second data structure format.

18. The method of claim 17 wherein the first computing device is a
 signaling gateway.

1 19. The method of claim 17 wherein the second computer device is a
 2 network processor.

1 20. The method of claim 17 wherein the data communications protocol
 2 comprises a file transfer protocol.

1 21. The method of claim 17 further comprising a communication link
 2 provided between the first computer device and the second computer device.

1 22. A method of managing call billing records generated from usage
 2 within a communications network by users, comprising:

3 providing a signaling gateway communicating with the network and
 4 a network processor communicating with the signaling gateway;

5 collecting call billing data with the signaling gateway in a first data
 6 structure format,

7 transferring the call billing data using a data communications
 8 protocol from the signaling gateway to the network processor; and
 9 converting the call billing data with the network processor from the
 10 first data structure format to a second data structure format conducive to
 11 processing billing information.

1 23. The method of claim 22 further comprising routing call billing data
 2 for a user via the network processor to a data network.

1 24. The method of claim 22 further comprising generating an invoice
 2 from the data network for delivery to individual users.

1 25. The method of claim 22 wherein the data communications protocol
 2 comprises a file transfer protocol.

1 26. The method of claim 22 wherein a communication link is provided
 2 between the signaling gateway and the network processor.

1 27. The method of claim 22 further comprising generating an alarm
 2 signal with the network processor.